

Synonym, Homonym, and their derivatives, to be used in their current zoölogical senses. Other combinations and derivatives of onym might be suggested, but the above examples will suffice.

S. S. OREGON, MID-OCEAN,
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A STUDY OF THE SINGING OF OUR BIRDS.

BY EUGENE P. BICKNELL.

(*Continued from p. 218.*)

Vireo flavifrons. YELLOW-THROATED VIREO.

THIS Vireo sings through July, August, and the early days of September. Records of song in some years are not closely consecutive during the middle weeks of July, and again towards the end of August; but usually occasional songs prevent any significant break in the record. If, however, the summer be exceedingly hot and dry singing may be suspended for weeks at a time.

Almost every year a few songs are to be heard in September, a week or two after singing has apparently ceased. In 1878 singing continued with some regularity until September 7, after which songs from single birds on the 12th and 18th were the last; in 1880 nothing was heard of the species between August 29 and September 12—on the latter date, as well as on the 17th and 18th, full songs being heard; in 1881, September 6 and 19 limit a hiatus in the record, though on the latter date, as well as on the 24th—my latest record—songs loud and full were heard. Mr. Brewster has observed somewhat similar habits of late song with this species at Cambridge, his latest record being September 11.

This is the only one of our Vireos which I have observed to sing while on the wing. On May 21, 1882, I observed a pair flying about among an open group of trees; one was being followed by the other: but their motions betrayed none of the excitement of pursuer and pursued: their flight was so easy and

leisurely that it was almost restful to watch them. For more than a minute they continued slowly circling about among the trees, within a space of a few rods, passing in and out among the branches; several times the leading bird appeared about to alight, but feeling its pursuer close at hand continued its course. The rear bird was constantly giving utterance to its full song-notes, which fact probably accounts for its uninterested manner as pursuer; for it seemed so engrossed with the feat of singing during flight that it could give little heed to the chase. Both birds finally alighted peaceably among the branches, the follower alighting first.

Vireo solitarius. BLUE-HEADED VIREO.

This is one of the few migrants which are regularly in song while passing in the fall. Their characteristic, yet Virionine song is usually the first indication of their appearance, and the last of their presence with us. Its greatest range in time, in different years, is from September 18 to October 9. This Vireo also sings while passing northward in the spring.

Vireo noveboracensis. WHITE-EYED VIREO.

There appears to be no regular period of silence with this Vireo, which is more or less given to vocalism through its entire stay. In July and August, however, there seems to be a time of minimum vocal vigor, when singing is intermittent, and sometimes appears to cease briefly altogether; but there is no constant rule, the birds appearing to be much influenced by varying external causes. A severe drought, as with other species, is unfavorable to song, and during the exceptional aridity of the summer of 1881 singing seemed, at intervals, to be wholly discontinued. In September, or by late August, the normal vocal vigor is regained; and sometimes singing becomes very general late in September, shortly before its discontinuance with us, which dates from the 22d to the 30th, and is due to the departure of the bird.

This Vireo possesses greater powers of song than are generally accorded it. Perhaps its want of recognition as a vocalist is because it does not reveal its fullest capabilities in the spring when birds are expected to do their best. All through the spring and early summer we hear in low bushy places and on shrubby

hillsides its brief and emphatic song, and though this has at least two distinct changes, greater variation is not often attempted. But it has another song which is almost wholly confined to the season of late summer and autumn. This is less vehement than the song of the earlier season, but more prolonged and of greater compass. It is a voluble and confused outpouring of singularly involved and varied notes, showing considerable power of mimicry, and of indefinite continuance. Some approach to this song is often noticeable in the ordinary songs of mid-summer, and sometimes it is actually produced early in July; but oftener it is delayed until August. In September it is frequent, and commonly is among the last songs heard. On a few occasions I have heard it in May and June, but these cases were wholly exceptional. In the autumn a change of habits is noticeable on the part of those individuals who have acquired the later song in its full complexity. No longer are these restricted to their earlier haunts amid hillside shrubbery and swampy undergrowth, which still harbor their less enterprising companions, but they are often to be found singing with full vigor amid the branches of tall trees, in the open, about the borders of woods, or even in cultivated grounds close about habitations.

On one occasion—July 28, 1878—I listened to a White-eyed Vireo rehearsing its common song with a rapidity that left no pause in its utterance. In its precipitate expression it soon lost control of the regular repetition of its strain, and the notes becoming sadly mixed, it desisted in confusion. It actually seemed as if it were experimenting to see how many separate songs could be thrown off in a given time.

Lanius borealis. GREAT NORTHERN SHRIKE.

While it is with us on its irregular and fleeting visits, this winter species does not often essay a greater vocal effort than a harsh note or scream. On occasions, however, it does actually sing; though probably never with its fullest power in this latitude. I have heard a variety of notes from it in October, on its first arrival, and in November; but its highest vocal achievement is in late winter and early spring. Its song may be one of the first that the spring can claim; for that indefinable change that comes into the atmosphere and the sunlight on some days of late

winter and leads us to look springward, seems to be as quickly felt by this hardened and cruel bird as by the most tender species which it is wont to make its victims. An unusually vocal bird was observed on February 10, 1877—a morning when winter seemed quietly relaxing from long-continued severity. Perched in the sunlight, on the topmost spray of a tall oak, on an eminence commanding an expanse of changing landscape, it was alternately singing and preening its beautiful plumage. The song was a medley of varied and rather disconnected articulations, an occasional low warble always being quickly extinguished by harsh notes, even as the bird's gentle demeanor would soon be interrupted by some deed of cruelty.

It has been claimed that the Butcher Bird attracts birds and small animals by imitating their cries, thus making them its easy prey. It is true that notes similar to the screaming of small birds and the squealing of mice are interspersed through its song; but they are uttered without method, and sometimes actually in conjunction with the most harsh and startling sounds of which the bird is capable.

Hirundo erythrogastra. BARN SWALLOW.

An almost universal misconception regards the Swallows as a tribe of songless birds. But the Barn Swallow has as true claims to song as many species of long-established recognition as song-birds. Its song is a low chattering trill, suggestive of that of the Long-billed Marsh Wren, but often terminating with a clear, liquid note with an accent as of interrogation, not unlike one of the notes of the Canary. This song is wholly distinct from the quick, double-syllabled note which so constantly escapes the bird during flight; nor is it, as may be supposed, produced by the commingling of the notes of many individuals in a species highly gregarious. I have heard it repeated many times from single birds, often when they were perched alone on telegraph wires. It is also uttered during flight, and continues into August.

Hirundo bicolor. WHITE-BELLIED SWALLOW.

The song of this Swallow is hardly more than a chatter. This is to be heard as late in the year as the bird is with us. Its ordinary notes are less sharp and rapid than those of the Barn Swallow.

Pyrranga rubra. SCARLET TANAGER.

With this brilliant bird, singing is continuous from the season of blossoms into mid-summer. After this time it is less constant and when August is well advanced is not longer heard. But during the last month of song the regularity of singing varies in different years. A record of each day when the song is heard will in some years be scarcely interrupted until the second week of August; in others it will show but a disconnected series of dates after mid-July. After early August singing is always uncertain, although straggling songs may extend the date of final cessation beyond the middle of the month. Conclusive songs occur at any time in the month up to the 20th. After the breeding season an abbreviation of the song, with some loss of emphasis, is noticeable, which usually has become more marked at the time of discontinuance.

Contrary to what is true of the Robin and some other birds, cool, wet weather seems to discourage singing with this species, and often on those sultry summer mornings which betoken the hottest days its song in full richness may be heard, though most of the other birds be silenced.

In October, toward the end of its stay, its only note is a single sharp *chip*, which, though an insignificant sound, when once known cannot be mistaken for the note of any other bird. Its ordinary call-note is likewise very distinctive. It is not often used after the close of summer, although I have heard it late in September. Speaking of this well known *chip-chir*, Mr. Fred. T. Jencks, of Providence, R. I., has called my attention to what is undoubtedly a clear instance of geographical variation in utterance. Mr. Jencks writes that he has observed that in "Illinois and Indiana it has three notes, *chip-chir-rec*."

Changing from its spring and summer scarlet to autumn green, this bird goes curiously counter to the order of color change from spring to fall, which nature has adopted on so large a scale for our landscapes. The Scarlet Tanager undergoes its change in August, and early in the month may be found with its red plumage variously invaded by the conquering yellowish and green. I have found the male in externally perfect fall dress by mid-September; but feather growth continues into October, when the bird becomes excessively fat.

Pinicola enucleator. PINE GROSBEAK.**Loxia curvirostra americana.** RED CROSSBILL.

In the spring of 1875 — a late spring, following a severe winter — both of these hardy birds so far relented from their usual reticence while away from their northern homes as to allow us to hear them sing. Of this, I have already written as follows: “. . . as the winter waned the birds became none the less common, and in the mild mornings of early spring-time this species [the Crossbill], as well as *Pinicola enucleator*, would often be found in full song, frequently on the same tree. As I now recall them, the song of the Grosbeak was a subdued rambling warble interrupted with whistling notes; that of the Crossbill bolder and more pronounced as a song.”* It the context, wherein is described a nest and three eggs of the Crossbill, taken at Riverdale, on April 30, 1875, the species is alluded to as having remained up to that time in full song.

Since that season I have met with flocks of Crossbills here in April, May, June, and July, but except an occasional low twittering in May, 1884, their usual nervous chatter was their only utterance.

As for the Pine Grosbeaks, they too remained late the present year — through March — and showed some disposition to sing. Low warbling notes were heard from them in February, at Sing-Sing, by Dr. A. K. Fisher, and also at Riverdale.

Carpodacus purpureus. PURPLE FINCH.

There is much irregularity in the occurrence with us of the Purple Finch, particularly in the winter season. In some winters it is constantly present in numbers; in others it is absent. From this arises an irregularity in the time of the beginning of spring song. When the bird has been common through the winter its song is to be heard usually much earlier in the spring than when it is brought by migrants. The time of arrival of the spring migrants is also variable, and their songs are first heard sometime between the fourth week of March and the corresponding week

* Bull. N. O. C., Vol. V, No. 1, p. 8. January, 1880.

of April. The latest date that I have record of for the beginning of spring song is April 23.

Purple Finches were present through the winter of 1877-78, and the exceptionally early spring which followed enticed them into song as early as the 3d of March. This is my earliest record for the actual beginning of song. Impatient birds sometimes try their pipes on bright days of mid-winter, but, so far as I have observed, always with poor results. When once regularly begun, singing continues until about the middle of July — 2d to 20th.

In the autumn the song is weak and desultory, although I have occasionally at that season heard a near approach to the full song of spring. Singing is also somewhat uncertain in the fall, and though in some seasons quite general with the species, in others it is not heard at all. Dates for song are down in my books from September 22 to October 31.

I have elsewhere (Trans. Linnæan Society of New York, Vol. I, pp. 43-44) referred to the song of the Purple Finch in the Catskill Mountains in connection with its song in the Hudson Valley, and alluded to variations to which it is subject.

Chrysomitris pinus. PINE LINNET.

In his record of the nesting at Sing-Sing, N. Y., in 1883, of the Pine Linnet (Bull. N. O. C., Vol. VIII, No. 3, p. 180, July, 1883), Dr. A. K. Fisher has told us that the bird was in full song after May 8. The species undoubtedly nested at Riverdale the same season, although no nest was discovered, and in early May it was often heard in song. This year they are again with us, and singing at the end of March. Their best efforts issue in a confusion of somewhat hard and hurried notes, tending to degenerate into a chatter.

Mr. Jonathan Dwight, Jr., has favored me with some interesting personal observations on this species, showing that in the spring of 1883, when it bred in the Hudson Valley, it was also common on parts of Long Island. At Rockaway, and at Cypress Hills Cemetery, Mr. Dwight saw them and heard them singing at different times between March 15 and May 2. He speaks of their song as a "soliloquizing gabble, interspersed with a prolonged wheeze — a prolongation of their usual note while flying." This hoarse note sometimes sounds much like a common note of

the English House Sparrow. Before it was familiar to me it was with no little surprise that I heard at Big Moose Lake, deep in the Adirondack Wilderness, a bird-note so suggestive of city streets.

Astragalinus tristis. AMERICAN GOLDFINCH.

A wide variation in the time of the beginning of song with this species in different years is doubtless attributable to the same causes that produce like results in the case of the Purple Finch. My records show that at any time between March 16 and April 17 it is not unusual for singing to begin. March 3 (in the precocious season of 1878*) is an exceptionally early date; April 23, 1883, an exceptionally late one. In the spring and early summer singing is likely to be inconstant; doubtless for the reason that the birds are not disposed to stay long at any locality when not under the restraint of domestic duties, and while wandering about in flocks they seem disinclined to sing.

Final songs are sung at the last of August (20th and 26th to 30th); though I have no record for 1881 later than August 8, notwithstanding that the birds were present through the month; possibly observation was at fault.

After the close of summer their song is not again heard until the following spring. Singing begins in the spring before the perfect summer plumage is assumed; but for that matter many of the birds are to be seen even so late as mid-May with a dusky tarnish still marring their golden coats. The Goldfinch often sings while on the wing.

Passerculus sandvicensis savana. SAVANNA SPARROW.

This Sparrow is one of the few spring migrants which are not in song on their arrival, and is also the only one of our song-birds which I find in full moult while migrating in the spring. Even so late as the fourth week of April individuals are to be found covered with sprouting and growing feathers; but at the same time, and before, others have acquired their full spring attire.

The dates that I have recorded limiting its presence in the spring are March 23 and May 19; while I have heard its song

* See a paper by the writer in 'The Country' for March 31, 1878, 'On the Animal and Vegetable Life of the Past Winter.'

between April 9 and May 2. Beyond the latter date it is never common, and in some seasons there are but few birds remaining at the end of April. Singing does not usually begin until from two to three weeks after the pioneer migrants have made their appearance.

This Sparrow I have never heard sing in the autumn.

Poœcetes gramineus. GRASS FINCH.

Where this Sparrow breeds numerously it perhaps sings on later into the summer than in the locality of my observations, where it is not a common summer bird. In some years I have not heard it long after the entry of July, but usually it sings till late in the month, and I am not without dates of its singing in early August.

In the autumn the species as a whole is without song, but individuals sometimes infringe the general rule of silence. At Saratoga, on September 30, 1883, a bird rose into the air from a sandy field, ascending with an excited chipping which passed into the musical notes of a varied and extended song; this instantly suggested the song of the Vesper Sparrow, differing, however, in being less definite in theme and more prolonged, but just as the songs of many birds while on the wing differ from their usual strains. Where the bird alighted a flock of Vesper Sparrows scattered up on my approach, and there can be no doubt that it was to one of their number that I had listened. I had not before observed the song-flight in this species. Another record of this Sparrow's singing in the autumn has been mislaid.

Coturniculus passerinus. YELLOW-WINGED SPARROW.

This little field bird continues in song up to the middle of July or later, sometimes even into the early days of August. It seems most persistent in song in hot, dry summers, when, on the most fervid days, its fine notes sound sibilant and insect-like about the parched fields.

Zonotrichia leucophrys. WHITE-CROWNED SPARROW.

I have never to my knowledge heard the song of this fine Sparrow; nor, indeed, have I ever found it a common bird in the

spring. Nevertheless it is sometimes not uncommon at that season, and may sing with some constancy. At Sing-Sing, twenty miles north of Riverdale, in May, 1882, Dr. Fisher found it in some numbers, and heard its full song between May 9 and 26. Dr. Fisher alludes to the song as suggestive of that of the Meadow Lark.

Zonotrichia albicollis. WHITE-THROATED SPARROW.

This Sparrow is here a winter resident, appearing from farther north in the latter part of September, and remaining into May. I have heard its song every month during its stay; but in winter, except at the borders of the season, singing is exceptional and always of imperfect expression. Song at this season seems merely to result from individual caprice.

Perhaps none of our birds shows greater irregularity from year to year in the time of general entry into spring singing than the White-throated Sparrow. While early April seems to be the usual time for singing to begin, it is not unusual for it to commence at any time in March, and in an abnormally mild season may begin before the end of February. On the other hand, it is sometimes deferred until the middle of April. Dates of final spring songs run through May to the 20th, and usually, though not always, occur a week or more before the species has disappeared. This discrepancy between the time of final song and departure, which is also noticeable with other species, is doubtless to be attributed to the fact of the songless females outstaying the males.

When the White-throated Sparrows reappear among us, in September, they are songless, and a week or two may elapse before they give voice. Dates of first autumn songs, of several seasons, range from October 3d to 7th.

The White-throated Sparrow has two especially characteristic single notes; a low *cheep*, and a resonant, metallic *chink*. This last sounds not unlike the clink of a metal hammer and drill, and when it is uttered by several birds in regular turn the effect in sound is strongly suggestive of that of quarriers at work near by. This note chiefly belongs to the late afternoon and early evening, and seems to be in general use only when a party of the birds are settling for the night about some chosen shelter. About my residence are large closely-grouped Norway spruces. At sundown,

in late autumn, winter, and early spring, many White-throated Sparrows congregate nightly for shelter in the dark recesses of these shaggy evergreens. Ere they have settled for the night their clear resonant notes fall upon the ear in confused rehearsal, but they are subdued to gradual decadence with the deepening shadows, until only now and then a single note breaks the stillness; then there is silence and night has fallen.

THE DISTRIBUTION AND MIGRATION OF *ZONOTRICHIA QUERULA*. •

BY W. W. COOKE.

WHILE living in Northern Minnesota I shot a bird, late in the fall, which was with difficulty identified. The 'Key' carried it straight to *Zonotrichia*, but it had no white crown, no white throat, and no black head; hence, how could it belong there? At last it was discovered that, like the play of Hamlet with the part of Hamlet left out, this was a Black-headed Sparrow minus the black head. The acquaintance then formed has ripened into a lasting friendship, and from that time the jaunty bird has been an especial favorite. It came to me under several circumstances tending to excite interest. It was the first true western bird I had ever seen, nor could I learn from any books at hand whence it came or whither it went; no one had ever seen its nest and eggs, and even its winter home was but imperfectly known. For three years its coming and going in the North were noted, and then after quite a long separation it was again greeted last fall in its winter home near the southern boundary of Indian Territory. As might be expected, its movements during the winter were watched quite carefully, and it is the intention of the present article to add to these observations all that is now known of its distribution and migration.

Our subject was first described by Nuttall from Westport, Mo., in 1840, and for the next thirty years not much was added to our knowledge of it. Up to 1873 most of the notices respecting it were from the Missouri River, along which it had been traced for